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Case Study

Linux Porting and Board Bring-up

Project/Client Details

- Linux Image based on Yocto
- Startup Company introducing a new product in the IoT space

Design Scope

- Architect the various SW components for the Solution. Choosing relevant SW components.
- Bring up uboot and Linux kernel on a custom IoT board based on NXP i.MX6 SoC
- Design and Develop V4L compatible driver for an Omnivision Camera module
- Support for custom Wifi modules on the board
- Development of Bootloader, replicating the Kernel and adding the recipes for custom build
- Low level driver architecture to support multiple video applications.

Expertise/Tools

- Low level Driver development, uboot, kernel
- Design and Implementation of V4L camera driver. Support for IOCTL for configuration of devices

Highlights

- The solution involves bringing up the software stack.
- Writing Camera driver which is compatible with V4L
- API implementation to give maximum flexibility to the user application. Support for Banding, Brightness, Contrast, streaming modes
- Support for Dual boot, NAND and external SD card
- OS bring up and customization of kernel
- Validation of drivers and common interfaces
- Video sample Application for showcasing the features of the driver.





THANK YOU



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